

# LIST

LONG ISLAND SINCLAIR TIMEX GROUP  
INCORPORATING \* NYTSE OF NEW YORK CITY

ISSUE: December 1990

\* NEW YORK TIMEX SINCLAIR ENTHUSIASTS: NEXT MEETING January 6th



LISTEN DRIVES SUPPORTED:

YOUNGER  
S. LARKIN  
S. AERICO

LIST MEMBERSHIP IS \$15.00. LIBRARY TAPES ARE AVAILABLE, WRITE THE  
ADDRESS PRINTED BELOW.



## SEASON'S



## GREETINGS



=====

L.I.S.T.  
5 PERI LANE  
VALLEY STREAM, NY  
11581

TO:

FIRST CLASS MAIL  
DATED MEETING NOTICE

UPPER RIGHT  
CORNER OF  
YOUR LABEL  
IS DATE OF  
LAST ISSUE.

LIST OFFICERS

PRES. HARVEY RAIT  
TRES. ROBERT MALLOY  
COR. SEC. JOHN PAZMINO  
EDITOR. FRED STERN  
LIBR. TOM SKAPINSKI

PLEASE SEND INQUIRIES TO:

LIST  
MR. HARVEY RAIT  
5 PERI LANE  
VALLEY STREAM, N.Y. 11581

PLEASE SEND SUBMISSIONS TO:

LISTING  
MR. FREDERIC STERN  
214 ROBERTS ST.  
HOLBROOK, N.Y. 11741

NYTSE

NYTSE MEETS THE MONDAY AFTER  
THE LIST MEETING AT:  
MISS KIMS RESTAURANT  
PARK AVENUE SOUTH  
BETWEEN 21 ST. AND 22 ST.  
MEETINGS START 7:30 PM.

COMING EVENTS:

JAN. 6, 1991 LIST MEETING  
JAN. 7, 1991 NYTSE MEETING

MEETING MINUTES  
DEC. 9, 1990

HARVEY CALLED THE MEETING TO  
ORDER AT 2:30 PM.

LIST SOLD 6 MORE COPIES OF  
TECHNICAL TID-BITS - FRED TO SHIP.

TECHNICAL TID-BITS WAS GIVEN A  
FAVORABLE REVIEW BY THE QZX  
NEWSLETTER. BESIDES PUTTING FRE  
DON AN EGO TRIP, IT HAS BOOSTED  
SALES. WE THANK QZX PUBLISHER  
MR. ALEX BURR, K5XY FOR HIS  
CANDIDNESS.

A NUMBER OF LETTERS WERE  
RECEIVED ENQUIRING ABOUT LIST.  
JOHN PAZMINO TO ANSWER.

TOM SKAPINSKI REPORTS THAT OUR  
NEWSLETTER EXCHANGE IS VERY  
ACTIVE. (WE EXCHANGE NEWSLETTERS  
WITH OTHER SINCLAIR-TIMEX USER  
GROUPS.) EXCHANGE NEWSLETTERS  
ARE AVAILALE FOR REVIEW BY  
MEMBERS AT THE MEETINGS. SEE TOM  
SKAPINSKI FOR DETAILS.

SAD NEWS

IT IS WITH DEEP REGRET THAT WE  
REPORT THE DEATH OF MR. WARREN  
FRICKE. WARREN WAS A RESPECTED  
SINCLAIRIST AND CONTRIBUTOR TO  
OUR NEWSLETTER. WE EXTEND OUR  
CONDOLENCES TO HIS FAMILY DURING  
THEIR TIME OF SORROW.

BECAUSE OF RISING COSTS IN  
PRINTING AND MAILING THE NEWS-  
LETTER, POSTAGE FOR CLUB MAIL,  
AND SUPPLIES NEEDED TO RUN OUR  
ORGANIZATION, DUES MUST BE  
INCREASED.

EFFECTIVE JANUARY 1 1991, DUES  
WILL BE \$16.00 PER. YEAR.  
HOPEFULLY WITH THIS SMALL  
INCREASE PLUS MONEY MADE FROM  
SALES OF PUBLICATIONS AND  
PROGRAM TAPES, LIST WILL HAVE  
ENOUGH FUNDS TO RUN ON.

FOR THOSE WONDERING, FUNDS ARE  
NEEDED PRIMARILY FOR SUPPLIES  
OR SERVICES SUCH AS PRINTING THE  
NEWSLETTER OR TECHNICAL TID-BITS  
. CLUB DUTIES SUCH AS MAKING UP  
THE NEWSLETTER, DEVELOPING  
PUBLICATIONS, ANSWERING CLUB  
MAIL, AND CORRELATING AND MAIL-  
ING THE NEWSLETTER ARE DONE  
VOLUNTARILY BY LIST MEMBERS,  
WHO RECEIVE NO FINANCIAL  
COMPANSATION FOR THEIR TIME.

DEMONSTRATION

BOB GILDER DEMONSTRATED A ROM  
SWITCH WHICH HE DESIGNED AND  
BUILT FOR THE QL. THE SWITCH IS  
DESIGNED TO ACTIVATE PROGRAMS ON  
EPROMS SO THE OPERATOR CAN  
SWITCH IN THE PROGRAM INSTEAD OF  
PHISYCALLY CHANGING THE EPROM.  
BOB WILL WRITE A DETAILED  
ARTICLE FOR AN UP COMING ISSUE  
OF LISTING.

NEW ENGLAND QL USERS GROUP

LAST MONTH WE FORGOT TO MENTION  
THE ADDRESS;  
NEW ENGLAND QL USERS GROUP  
P.O. BOX 8763  
BOSTON, MA. 02114

UPDATE MAGAZINE

WE RECEIVED THE NEW UPDATE  
MAGAZINE, EDITED BY CAROL AND  
FRANK DAVIS. THE \$16.00 PER YEAR  
SUBSCRIPTION IS A GREAT INVEST-  
MENT FOR ANY SINCLAIR COMPUTER  
USER. MY ONLY COMMENT IS FRANK  
SHOULD BE MORE FLEXIBLE CONCERN-  
ING TS1000 USERS. THEIR ARE A  
LOT OF US WHO STILL USE THE  
BLACK WEDGE, BUT NOT MANY HAVE  
DISK CAPABILITY. ONE EXAMPLE IS  
THIS WRITER.  
FOR YOUR SUBSCRIPTION  
UPDATE COMPUTER SYSTEMS  
P.O. BOX 1095  
PERU, INDIANA 46970

A FINAL WORD

MY NAME IS FRED STERN AND I AM  
THE EDITOR OF THIS EDITION OF  
LISTING.

ON BEHALF OF THE OFFICERS AND  
STAFF OF LIST AND LISTING:  
HAPPY HOLIDAY AND HAPPY NEW YEAR

# LIST 2068 TAPE LISTING

THE FOLLOWING IS A LISTING OF  
THE PROGRAMS ON LIST TAPE NO. 8.  
THESE PROGRAMS COME ON A QUALITY  
C-60, NAME BRAND, LOW NOISE,  
CASSETTE TAPE.

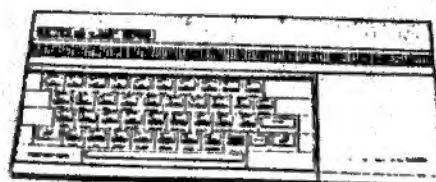
TO GET THIS TAPE, SEND \$6.00 TO:  
LIST C/O HARVEY RAIT  
5 PERI LANE  
VALLEY STREAM, N.Y. 11581



- 1 Wrapping
- 2 PRCODE
- 3 WORD PROCS
- 4 AERCO INT
- 5 TALK CLOCK
- 6 ZTALK
- 7 INVOICING
- 8 BIORHYTHMS
- 9 READER 1
- 10 READER 2
- 11 TRACE
- 12 RENUMBER
- 13 CASE SWAP
- 14 VARS
- 15 SCROLL
- 16 SCROLL
- 17 SCROLL
- 18 OVERS 1
- 19 OVERS 2
- 20 PATTERNS 1
- 21 PATTERNS 2
- 22 PAINTING
- 23 PICTURE
- 24 FLAG
- 25 FILE
- 26 ANDROIDS
- 27 B & C
- 28 SIMON SAYS
- 29 FINAL
- 30 TEST
- 31 SECONDS
- 32 NAVIGATION
- 33 SQ ROOT
- 34 UP & DOWN
- 35 DIG. TIMER
- 36 PAPER & INK
- 37 BEWARE DOG
- 38 EXAM
- 39 KEYBOARD M
- 40 LAS VEGAS
- 41 PARROT
- 42 KENTACKY
- 43 STM
- 44 MC EXAMPLE
- 45 SHAKESPEARE

- 46 TRESURE H
- 47 I.T. ONE
- 48 THE I.T.
- 49 WOLF & GOATS
- 50 RACER
- 51 AT MARKET
- 52 WINDOWS
- 53 STICKS
- 54 NEW CHR\$
- 55 NEW CHR\$
- 56 NEW CHR\$
- 57 NEW CHR\$
- 58 MESSAGE
- 59 TITLEMAKER
- 60 REGRESSION
- 61 BAR GRAPH
- 62 SCROLL\$
- 63 AUTUMN
- 64 NO. SORT
- 65 WORD SORT
- 66 DERBY DAY
- 67 ATTR TABLE
- 68 METRIC
- 69 HEADER
- 70 HEADER/C
- 71 SEARCH
- 72 S/DATA
- 73 DEMOLITION

- SIDE B
- 1 DEMOLITION
- 2 DEMOLITION
- 3 SUBMARINE
- 4 BRICKS
- 5 MONEYPAIL
- 6 CHOMFER
- 7 ASTEROIDS
- 8 TREE MAKER
- 9 MOZART WA
- 10 SANTA WA86
- 11 LOANS WA86
- 12 E Z DIS
- 13 UDG DESIGN
- 14 NETWORK
- 15 128 COLORS
- 16 BANANAS
- 17 M/C LOADER
- 18 PSGE 32/64
- 19 KMI
- 20 CHARACTERS
- 21 FULLGIRLS
- 22 JANIS
- 23 CONVERSION
- 24 TIMER 1C
- 25 TITLE/CODE
- 26 BBS
- 27 ATTR
- 28 2XSIZEHITE
- 29 3 CHARS
- 30 TITL/SHOOT
- 31 TITL/SHOOT
- 32 PAINTSIC
- 33 SANTA
- 34 SCRAMBLER
- 35 TAPE/ANALY
- 36 MULTIFILE
- 37 SAVER
- 38 SAVER MC
- 39 TASPRINT
- 40 TASFONT 0
- 41 TASPRINT
- 42 TAS2PRINT
- 43 TAS2PRINT
- 44 TASPRINT
- 45 COMMENTS



Effective 1 Jan 1991



NEW RATE  
\$16.00

# DUES

NEW RATE  
\$16.00

THE PURPOSE OF THIS PAGE IS TO INFORM ALL CURRENT AND POTENTIAL MEMBERS THAT IT HAS BECOME NECESSARY TO RAISE OUR CLUB DUES.

IN THE PAST FIVE YEARS THAT I HAVE BEEN A MEMBER THERE HAS NEVER BEEN AN INCREASE. UNTIL NOW THAT IS. MUCH THOUGHT HAS GONE INTO THIS DECISION TO RAISE DUES. NOW IS THE CORRECT TIME TO ADDRESS THIS SUBJECT. ~~OUR CLUB IS A NOT FOR PROFIT ORGANIZATION.~~ HOWEVER IT SHOULD NOT OPERATE AT A LOSS. THEREFORE JAN'91 THE RATE WILL BE \$16.00.

I HOPE YOU WILL FEEL THIS IS NOT UNREASONABLE AND WILL CONTINUE TO BE A L.I.S.T. MEMBER.

AS YOU MAY KNOW POSTAGE IS GOING UP AGAIN. ALSO COPY COSTS HAVE RISEN. MOST MEMBERSHIPS ARE UP IN JANUARY, THIS IS WHY THIS TIME WAS CHOSEN. THANK YOU FOR YOUR CONTINUED INTEREST IN OUR CLUB.

SINCERELY; YOUR PUBLISHER



TO: ALL MODEM OWNERS  
FROM: BOB MALLOY  
SUBJECT: ONLINE COSTS

If you like to access a service such as COMPU SERVE, DELPHI or others but are concerned with the hourly charges you may find the following announcement from GENIE to be of interest, especially if you have flat rate phone service.

\*\*\*\*\*

ON OCTOBER 1, 1990 GENie will introduce GENie Star\*Services. For a monthly subscription fee of \$4.95 (\$5.95 Canadian), you can become a member of GENie, plus have unlimited non-prime time use of select GENie products including: GENie Star\*Services: \* News, Weather, Sports Top Stories \* Travel Information & Reservations \* Closing Stock Quotations \* Electronic Encyclopedia \* GE Mail (TM) electronic mail \* Leisure and Professional Bulletin Boards \* Classic GENie single player games \* Shopping Services \* Subscription to GENie's LiveWire Magazine

GENie Star\*Services are available from 6 PM to 8 AM local time on weeknights, all day Saturday and Sunday and on GENie weekday holidays. These services are available at 300, 1200 and 2400 baud.

For further information in the U.S. and Canada on the GENie service, offered by GE Information Services, please call 1-800-638-9636. GE Information Services, a division of General Electric Company, U.S.A., is headquartered in Rockville, Md.

\*\*\*\*\*

I find it great to be able to go through areas such as the Encyclopedia, Stock Quotations, the Education Bulletin Board (My wife is a teacher) and others without worrying about how much of a bill I'm running up. I know that the whole months' charges will only be \$4.95 as long as I stay in the STAR\*SERVICES sections.

If you have any questions you can write to me c/o LIST or BY EMAIL on GENie. My I D there is R.MALLOY1



LIST  
Long Island Sinclair  
TIMEX User Group

LIST.  
LIST.





Next substitute an = mark for the + sign in line 10.....

```
5 LET Y=2
10 PRINT 5 + Y=6
```

Now there is a logic condition in line 10, but the + sign has a higher priority than the equal symbol, so the computer adds 5 to 2 and gets 7. Then it looks at the condition 7=6. It compares the two numbers and finds that they are not equal. So it prints out a 0, the logic value of a FALSE condition. Change the 6 in line 10 to a 7 and RUN the program again. You will now get a printout of 1, indicating that the logic value of 7=7 is 1, indicating a TRUE condition.

Consider the manner in which the Timex computer evaluates or alters the value of a variable. Seemingly this construction may look like a departure from the priority rule. Enter the following lines.....

```
5 LET T = 5
10 LET T = T+3
15 PRINT T
```

Meeting this for the first time, one might conclude that this is arithmetically incorrect. How can a number be equal to itself plus 3? Here literal meaning gives way to computer talk, and it means change T to be equal to itself plus 3. In this situation the = mark is an "assignment operator", having a priority of 1, placing it at the very bottom of the priority scale. In another sense LET T= can be considered a syntax arrangement, a grouping of characters that perform a particular function last and independent of the other operations in the statement. Now change line 10 of this little program to read.....

```
10 LET T = T = T
```

RUN it and the answer comes out 1. This is because the computer considers this line to be equivalent to...

```
10 LET T = (T=T)
```

Now (T=T) is true for all values of T; so it has a logic value of 1. Hence T itself becomes 1. Go a step further and add another = T....

```
10 LET T = T = T = T
```

It has been said here before that the computer is a number oriented machine. Every thing that it does, it does by the manipulation of numbers. Basic is a language akin to English, devised solely for the benefit of us humans. The computer itself doesn't need Basic, and early models of computers did not have it. All of the Basic commands, operations, symbols, etc, used by programmers are converted immediately into code numbers by the computer for its own use. Then to communicate back to us, the computer kindly replaces the numbers with a language that we can more readily understand. In an 8-bit computer such as the Timex, there are only 256 distinct numbers in a byte, from 0 to 255, but these numbers have different meanings to the computer, depending upon how and where they are used. That's why, for example, the number 201 can represent RETURN in a machine code instruction, and the symbol <> used in a logic condition of Basic. That's why 0 in logic is set aside to mean FALSE, and any other number in similar circumstances signifies TRUE.

Another computer trait we wish to emphasize again is the way it responds to priority. Priorities are listed on page 228 of the manual. Add parentheses, priority 16, to this list. Every thing that the computer does, it does in the order dictated by priority. Basic statements, including logic, are scanned left to right on a program line, instructions followed according to priority, highest first, then the next highest, until all operations are considered.

Let's put these two logic considerations to a test with the following short program.....

```
5 LET Y=2
10 PRINT 5 + Y*5
```

Look at line 10. It doesn't contain a logic condition, but priority is needed to perform the mathematics at the proper time. The \* symbol has priority higher than the + symbol, so the computer does the multiplication first, and then adds the result to 5. The answer, 17, will appear if you RUN the program.

Run this and the answer comes up 0. This is because the computer evaluates line 10, in stages, as follows.....

```
10 LET T=(T+T)=T, which is...
10 LET T=( 1 )=T, which is...
10 LET T= (1=T) , which boils
   down to....
10 LET T= 0
```

And the final answer will be 0 no matter how many times we add an =T. LET appears in many lines containing logic conditions. Try the following in our little program....

```
10 LET T = T = 50
```

Since T has a value of 5 before getting to this line, the condition  $T = 50$  becomes a logical 0 and T finalizes to a value of 0 also. If T had a value of 50 when the program got to this line, the condition would be TRUE, logic value 1, and T ends up with a value of 1 also. Thus the final value of T will be either 0 or 1 depending upon its prior value.

Appropriate logic expressions enable the computer to make quick decisions with a paucity of words or characters. To the programmer this means less bytes are required, conserving RAM. Short, concise statements also RUN faster as a rule, another asset. Experienced programmers build up a repertoire of logic short cuts. Consider a situation where one might want to develop either a +1 or a -1, at random. Useful if back and forth, up and down motions are required. An expression like the following will do it....

```
LET K = 1 - 2*( RND > .5)
```

The condition in parentheses will be TRUE half of the time and FALSE the other half. So it might have a logic value of 1 or 0. From here on the procedure is pure math. A logic value of 1 makes  $K = -1$ , and a logic value of 0 makes  $K = +1$ . By the way, did you notice that the parentheses are necessary? Otherwise the computer will consider the \* operator before the > symbol. There are short cuts galore, especially in Timex logic; as we shall see.

Consider an expression like IF  $B <> 0$ .... It can be replaced simply by IF B. This is because any value that B would have other than 0 would be considered logical TRUE. The same goes for an expression like...

```
IF 17 ≠ n (<> 0), which is the
   same as...
IF 17 ≠ n
IF TRUE.... (n<>0)
```

We can have other mixtures of arithmetic and logic operations and priority will decide the outcome. Consider this one....

```
5 LET D = 6: LET E = 5
10 PRINT D < 8 - E
```

Before you RUN this, take a try at the answer, remembering that the negative sign has a higher priority than the < mark causing the computer to consider the condition to be  $8 - 5$  or 3. As 3 is not larger than 6, the entire expression is FALSE. Hence a logic 0 will PRINT.

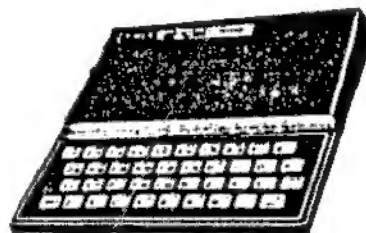
In the fourth part of this series we will look at some logic expressions not available on other computers. Expressions that enable Timex programming to be more concise when the occasion arises, and they can be used.

Warren Fricke  
Revised 10-28-89

ZX-81 AND TS1000

TECHNICAL TIDBITS

SECOND PRINTING



\$4.00



Jack Doherty  
390 Rutherford  
Redwood City, CA  
94061

415-367-7781



1990 CATALOG OF 2068/SPECTRUM PRODUCTS  
(Sorry, I don't support other computers.)

**INTRODUCTION**

This catalog has 4 parts: Introduction, Price List, Product Descriptions, and Order Blank. Please make as many hardcopies as you like, especially of the order blank. I offer 4 kinds of products: SOFTWARE on cassette or disk; FIRMWARE on eprom; HARDWARE (electronic devices); and BOOKWARE (books and periodicals for rent).

**GUARANTEE**

All of my products, including software, have this satisfaction guarantee: you're welcome to return any product within 30 days for a full refund or credit, for any reason. Whenever you buy something by mail, you're always buying a "pig in a poke". You can't always tell from my brief description whether the product will truly suit your needs or desires.

**SHIPPING TIME**

Please allow 30 days. If it will take longer I'll send you a post card telling you so. I sometimes get swamped, or caught up in other activities, so there are sometimes very long delays. Your patience is very much appreciated.

**CREDIT**

If you're low on cash: pay what you can, when you can, and do your own record-keeping. I don't want to have to keep track of how much you owe me; that's your job. In my experience, 2068 owners are remarkably trustworthy.

**TRY-BEFORE-YOU-BUY**

You are welcome to include payment with your order... or not. That is, you can order on a try-before-buy basis; if you do so, I will assume that you agree to pay for products received if you like them, or return them within 30 days if you don't.

**PRODUCT DESCRIPTIONS: SOFTWARE**

When you order software from me, I provide it pre-customized for your equipment. Therefore it's very important that I know all about your equipment: Spectrum emulator, printer interface, printer, disk interface, disk drives and so on.

My consuming passion is writing software for the 2068 & Spectrum, and improving existing software. In my view, any piece of software can always be improved. I am not the originator of MOST software that I sell; but I have improved most of it. I pay a royalty to the original author or publisher where possible. Most of the software I sell is copyrighted. Please respect that copyright, and do not give copies to friends.

Most software includes documentation, usually on paper, sometimes on disk, if I know you have the appropriate word processor for printing the documentation on disk. Some software either requires no documentation, or is self-documenting.

I have MANY more programs available than are listed herein. If you are looking for a program not listed, let me know... I may have it. I just don't have time to produce a complete list.

In parentheses you will find a RATING (purely subjective, A to F), a colon, and T, S or TS. T means Timex 2068 ONLY, S means SPECTRUM ONLY, and TS means either that the software runs on either machine, or that two versions of it are provided.





# BOOKWARE RENTAL

I have a library containing a great many Sinclair-related books, magazines and newsletters. I have not yet cataloged my library. If you know what you need, enquire. If I have it, you can rent it BRIEFLY at 50 cents per day for a maximum of ten days. There is also a special price of \$2 per day for a group of 10 items. Most things in my library are irreplaceable, so you must absolutely promise to return what you receive within ten days. The idea is that you should make hardcopies of any needed information, then return the items. I intend to produce a listing, eventually, of everything in my library.

## OTHER SERVICES

I will try to help my fellow T/S users in any way possible. However, my time is not free. You are expected to pay for my time spent in helping you. How much? Whatever you feel is fair.

## CONCLUSION

Thanks for your support and patience!

## PRICE LIST

Payment may be in cash, personal check or money order, all of which I treat equally. Sorry, no credit cards. Prices are in U.S. dollars.

PG SOFTWARE	PRICE	PG FIRMWARE	PRICE
3 WORD MASTER V2.0	20 to 70	8 32K T/S EPROM KIT	20
3 MSCRYPT V5.5	25	8 * OS-64	15
3 BACKWORD V1.0	20	8 * PINBALL	10
4 MASTERFILE V9.0	20	8 * FLIGHT SIMULATOR	10
4 VU-FILE	10	8 * CASINO 1	10
4 SUPERDRIVER V1.0	20	8 * ANDROIDS	10
4 GYPSY V2.0	10	8 * SPECTRUM EMULATOR	15
4 DISK FILE MANAGER V2.0	5	8 * requires cartridge below	
4 DRIVES V1.0	0		
4 FONT MANAGER V2.0	20	HARDWARE	
4 SPECDOS + TXDOS V3.0	10	8 Standard cartridge	10
4 BA-64 V2.0	20	8 ZIF cartridge	15
4 RPM	25	8 Printer EXT DIP kit	10
4 TOOLKIT V1.0	5	8 Centronics Int Kit	25
5 EZ EDIT V1.0	10	8 Centronics Ext	40
5 EXTENDED BASIC V1.0	10	9 RS-232 EXT	50
5 SUPERCODE V3.5	20	9 Centronics Plans	5
5 VU-CALC V1.0	10	9 RS-232 Plans	5
5 OMNI-CALC V2.0	10	9 Eprom programmer plans	5
5 VU-3D V1.0	10	9 " kit 50 sat 100	
5 PC-DRAW V2.0	25	9 Switcher power supply	20
5 ZEUS V1.0	20	- Zebra Disk I/F	45
5 DEVPAC V3.3	30	- " + centronics port	70
5 TECH-DRAW JR and SR	20	- Zebra Disk 16K contrlr	15
5 DRAW 512 V2.0	10	- Zebra disk 64k + CPM	50
5 EXTENDED PAINT	10	- Zebra 3" drive	50
5 HISOFT PASCAL COMPILER	20	- 2.5" 720K drive	70
5 HISOFT C COMPILER	20	- Zebra silver box	10
6 FORTH	10	- Zebra power supply	10
6 WATCH	0	- Zebra FD3000 cabinet	50
6 TURTLE GRAPHICS	5	- Custom wood cabinet	50
6 PINBALL	10	9 2068 Computer	80
6 SCRABBLE	10	9 2068 Power Supply	10
6 SUPER BRIDGE	10	9 2068 User Manual	5
6 BUGABOO	10	9 A/D Interface	20
6 MUSICOLA	10	9 LINGER board, sat	140
6 NOTEWORTHY	10	9 LINGER board, kit	80
7 DLAM	10	9 LINGER board, info	SASE
7 DISK EDITOR	20	9	
7 MC TUTOR FOR DISK	10	9 IBM-type keyboard	40
7 ZEBRA DESIGNER	20		
7 ZEBRA TALKER	30	BOOKWARE RENTALS	0.50
7 MULTI-DRAW	10	per day, plus mailing.	
7 WP12	10	10 day limit! Promise of	
7 KEYWORD	5	quick return is assumed.	
7 SRL	10	\$2 per day for group of	
7 TIMEMACHINE	20	10 items.	







## ZK-81 Pokes & Calls



Use at your own risk!

- Rand USR 0      clears program & restarts
- Rand USR 681      In FAST mode, prevents report code from display
- Rand USR 757      In FAST mode saves a program without a name
- Rand USR 836      In FAST mode, will load a program and STOP it even  
if it is self starting. Gives a C error code but  
disregard. Hit LIST and there is the program. Some MC  
programs initialize from the print buffer and you may not  
get a listing. I have seen only 1 program that did this  
(HOT Z-1) Most start with a RAND USR 16514.
- Rand USR 930      Equivalent to BREAK
- Rand USR 963      clears program area & variables (NEW)
- Rand USR 2955      equivalent to ";" in a print statement
- Rand USR 3086      scrolls up one line
- Rand USR 3292      Equivalent to STOP
- Rand USR 3875      Equivalent to FAST
- Rand USR 3883      Equivalent to SLOW
- Poke 16418, 0      Makes a 24 line display (don't scroll or input - CRASH)
- Poke 16441, 20      Gives a 34 column display (careful, can cause CRASHES)
- Poke 16509, N      N = 40 to 63. Makes editing hard; line # have letters.  
N=99 prevents program from running or listing, poke to 0  
to restore operation.
- Poke 16510, 0      Makes first line number 0, can't be edited. Use for  
Copyright notice. To hide listing use the following:  
Enter "1 REM aa", then POKE 16514, 118 & POKE 16515, 118. Listing is gone



**Capt Anthony J. Oresteen**

5679-B Brelly Dr, FT Knox, KY 40121 (502) 942-1326

## ZX81

### NEW LOCATIONS FOR M/C ROUTINES IN A 64K RAMPACK

Retyped from the Sept 1985 issue of Vancouver N/L "ZXAPPEAL"

Those of you who, like me, have a 64K Rampack know that the area between 8 and 16K is a great spot to put your favourite machine code routines.

The trouble is that a lot of commercially available peripherals, made for the ZX81, use up some or all of this area by squatting their ROMs all over it.

On a normal ZX81, machine language programs do not run above 32K; there is however a solution. It comes to us from Christofer Tolis, who lives in Stockholm, Sweden; via Glen Read, who noticed it in the British mag. "Electronics and Wireless World".

As you may know, when address line A15 goes high (and M1 low, which means an OPCODE fetch is in progress, as opposed to a data fetch, this is the reason you can store data above 32K in the first place) the Ferranti chip kicks in the display routines. See also ZXappeal April '85.

To avoid all this we simply make sure A15 can not go high (at the Ferranti chip) unless A14 does the same, which it will not do when you are running a machine language routine between 32 and 48K.

Don't worry A14 will be high when a legitimate display needs generating as long as the display file lives in the Sinclair sanctioned 16 to 32K area. This means that your BASIC program, which fills up the space between the system variables and the display file, must be less than 15K, in order to keep the display file within the 32K border, but programs that long have yet to be written for the ZX81.

#### TO DO THE DEED:

Cut the trace at the Ferranti #18 pin and install a 1K resistor. Solder a diode between pins 11 and 18 on the Ferranti side of the resistor using the correct polarity, and, voila, yet another 16K to put your favourite machine language routines. Oh and by the way, these routines are of course safe from the reset button just as they are in the 8 to 16K area. You knew that, didn't you?

Retyped by G.F.C.

